

## REMARKS

The Official Action of November 3, 2004 has been carefully considered and reconsideration of the application as amended is respectfully requested.

Apparatus claims 1 and 13 have been amended in accordance with the provisions of 35 USC 112, sixth paragraph, to add “reflective optical circuit means”. Method claims 7 and 21 have been amended in accordance with the provisions of 35 USC 112, sixth paragraph, to add the step of “directing the polarized signal components through the single birefringent element”. All claims now of record make use of means or step for performing recited functions and thereby invoke the provisions of 35 USC 112, sixth paragraph. In accordance with the provisions of that paragraph, the claims cover the corresponding structure, material or acts described in the specification and equivalents thereof and **do not require** the recital of additional structure, material, or acts. Accordingly, it is respectfully submitted that the claims as amended are sufficiently definite by statute and that the rejections under 35 USC 112, second paragraph should be withdrawn.

Claims 1-4, 7-11 and 13-22 have been rejected under 35 USC 102(e) as allegedly being anticipated by Cao. Claim 12 has been rejected under 35 USC 103(a) as allegedly being unpatentable over Cao. Claims 5 and 11 have been rejected under 35 USC 103(a) as allegedly being unpatentable over Cao in view of Kurata et al. Applicants respectfully traverse these rejections.

In response to the examiner's rejection of claims 1, 7 and 13 Applicants have amended these claims to add a limitation on the way in which an optical signal is input into, and output from, the device. These amendments effectively limit the claims to a device in which an input signal and an output signal travel along the same path in opposite directions, as shown in the specification and drawings as filed. This new limitation is clearly absent from Cao, in which an input signal enters one port of the device and its respective output signal exits from an entirely different port as described below.

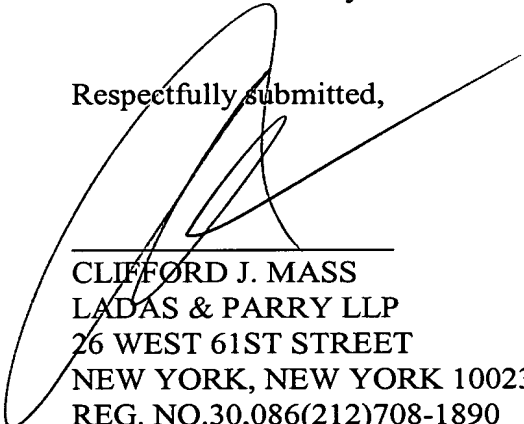
Cao describes a four port optical circulator rather than a single port device as disclosed in the present application. As a result, there is no coincidence of the forward and reverse optical paths through the device of Cao. For example, in the embodiment of Figures 3 and 4 of Cao and the corresponding polarization state diagram in Figure 6, a beam entering port A of the optical device is initially split into orthogonal polarization states by the first walk-off plate 309. The polarization state indicated with "A" in Figure 6 does not traverse the first optical rotator 310 whereas the polarization component "A'" does pass through the first optical rotator 310 in the forward path. Upon reflection by mirror 314 the path of polarization component "A" passes through the optical rotator 310 whereas the path of polarization component "A'" (which was previously rotated) does not pass through the rotator on its return path. The output signal then exits through the port previously designated as port "B". As can be seen, there is no coincidence of the forward and reverse path of this beam. A similar argument holds for light entering ports B, C and D of the device.

With respect to claims 21 and 22, the rejection is respectfully based on a

misinterpretation of these claims. Claims 21 and 22 are directed to a device with a bidirectional input/output whereas the input and output signals of Cao do not travel "along the same path" as claimed in claims 21 and 22. Although they are novel in their original form, Applicants have amended Claims 21 and 22 to improve their clarity. It is respectfully believed that this amendment should preclude any misinterpretation of these claims.

In view of the above, it is respectfully submitted that all objections and rejections of record have been overcome and that the application is now in allowable form. An early notice of allowance is earnestly solicited and is believed to be fully warranted.

Respectfully submitted,



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